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Common Law and the Veterinary Surgeon*

BY

C. C. STEVENS

THERE are so many facets of the law which affect the veterinary surgeon in his practice that it is essential to choose one particular section on which to speak, and I have accordingly chosen the Common Law as this can affect the veterinary surgeon, not only in his practice, but also in his daily life.

English law is derived from various sources, the one with which we are most well acquainted being Statute Law or Acts of Parliament and the Regulations made thereunder. There is a technical body of law known as Equity, formerly practised in the Chancery Courts; while in the Probate, Divorce and Admiralty Division of the High Court one finds the last relics of the Ecclesiastical Law which was at one time administered by the Bishops, together with Sea Law derived from the maritime custom of nations.

That law which is left is known as the Common Law of England and in theory is supposed to depend upon immemorial custom. In practice it is based upon judicial decisions given over many hundreds of years and, because of this, it is always growing and always changing. Apart from one or two exceptions, the Common Law is not contained in Acts of Parliament but must be sought in law reports. Its two great divisions are contract and tort. In the time available, it is impossible to cover the subject fully so I propose to deal briefly with certain aspects of tort.

Tort, which is a Norman French word having the same meaning as the French word " tort " to-day, means " a wrong " and at law it is a civil wrong as opposed to a criminal wrong. A suitable definition is " an act or omission on the part of the defendant arising through intention, negligence or breach of strict duty with damage resulting to the plaintiff."

There is a Latin maxim " Volenti non fit injuriâ " which means a " willingness of submission does not give rise to damages." An example of this is a stunt man in film making who suffers injury in his employment. As he willingly takes on a risk greater than normal, accidents arising from this risk do not give him an action at tort.

A willingness to submit may be negatived in the case of employer and employee where the law frequently takes the view that an employee submits willingly under a fear of possible dismissal. If a veterinary surgeon were to send his assistant or a kennel man out

*Extracts from a paper read to the Lancashire Veterinary Association.

on a job in a defective car and an accident resulted, the surgeon would probably be liable whether his employee knew of the defective state of the car or not.

Some Legal Niceties

There is a difference between willingness and mere knowledge—what the law calls "volenti" as opposed to "sciens." In the case of Dann *v.* Hamilton, a person allowed his friend to drive him home in the latter's car although he knew his friend was drunk and not in as able condition to drive a car as when sober.

The person was injured in an accident and the Court allowed him to claim damage, holding that mere knowledge of his friend's condition was not the same as willingness to submit to a definite risk. It is these uncertainties and fine technical points that make it essential for a veterinary surgeon to seek expert opinion when involved in threatened actions.

Often when a person is injured by the tort of another there may be several intervening participants and a difficulty may arise as to which person to sue. The law holds responsible that person who can be judged as the one giving rise to the real cause of damage.

In the case of Scott *v.* Shepherd decided in the 18th century and popularly known as "The Squib Case," a man, Shepherd, threw a lighted squib into a crowded market place. This landed on a gingerbread stall and the owner, fearing for her ginge:bread, threw it quickly away when it landed on a second gingerbread stall. Again the owner threw it from her and it landed on Scott, in whose face it exploded causing the loss of the sight of one eye. Scott sued Shepherd, and the law held rightly so, as the two intervening stallholders acted solely in the heat of the moment, and did what any reasonable person might be expected to do in similar circumstances.

Capacity can affect tort although to a much less degree than at contract. At one time the Crown was not liable in tort and it was necessary to sue individual officials. Now, however, since the Crown Proceedings Act, 1947, one can, with minor exceptions, sue the Crown.

Infants, and by that I mean persons under the age of 21, have rights and duties at tort just as adults. In fact, parents are not liable for the torts of their children unless they have in some way encouraged them. A veterinary surgeon may have his surgery window broken by children playing in the street and although in most cases he will seek recompense from the parents, there is no legal duty for them to pay. The surgeon's right of action lies against the children themselves, but as they are without means, it is probably of little use to sue them.

The relationship of master and servant should be considered because, at English Law, the master has a vicarious liability for the servant's actions. This would apply in the relationship between a veterinary surgeon and his qualified and unqualified employees because professional qualification does not make an employee any less his employer's servant. If a dispenser were to slander another veterinary surgeon, or a client, in discussions with another client in the surgery or waiting room, the surgeon could be sued as well as the dispenser because it is part of her duty to meet and talk with clients and, therefore, the tort of slander would have been committed in the ordinary course of her employment. The surgeon would have no responsibility, however, if the same dispenser were to run negligently over somebody in the street on her way home as this is not in the course of her employment. It would be a different matter, however, if the qualified assistant were to run over somebody on his daily rounds.

Having dealt with some general aspects of tort, I will now make brief reference to certain specific torts:—

Dangerous Premises

By dangerous premises, I mean any defect in buildings or land which may cause damage to those coming on to them. Your house or surgery, or your yard, may at any time become dangerous premises, and the duty owed to those coming on premises varies according to their status.

Those who enter premises under a form of beneficial contract such as hotel guests are owed a very high degree of care. Lower in the scale is the invitee, being a person who comes on premises on business common to you both, such as a client bringing his animal to your surgery for attention. You owe a duty to such a person to warn him of any hidden traps such as a defective step or some jagged piece of furniture that would tear his clothing. Additionally, you must warn him of defects in your premises of which you should know even if you do not. For example, if you have a defective ceiling which falls and causes injury, you are liable to the person damaged even if you were not aware of the fault, because the law states it is your duty to know about it.

The next status of a person entering on premises is the licensee, that is a person who has a bare permission to enter or pass through. You may have a yard which, by courtesy, you allow neighbours to traverse as a convenience to get from one place to another. The law states they have a bare licence to use this yard and your only duty is to warn them of hidden traps. If there were a structure in this yard which was defective and fell causing injury, you would not be liable to the licensee as opposed to the invitee if you had no knowledge that the structure was in fact defective.

Last in the scale of persons coming on premises is the trespasser, to whom very little duty is owed at all. He must take premises as he finds them, but the law does not allow you to set up man-traps or spring-guns except on enclosed premises at night.

Negligence

Negligence is a branch of duty to take care, and probably this is the tort which veterinary surgeons are most likely to come into contact with during their days of general practice. No hard and fast rules can be laid down as to what constitutes negligence or not, as it is the practice of the Courts to judge each case on its merits.

A professional man is unfortunately at the mercy of his clients who frequently go to law on the least

(*Concluded on page* 567, *col.* 2)

The Narcotic Effects of Thiambutene in the Dog and its Antagonism by Nalorphine

BY

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THE analgesic and other properties of the dithienylalkenylamines have been described by Adamson & Green (1950), Green (1952) and Green (1953), who have shown that some of these compounds have actions resembling those of morphine and also of pethidine. One of the compounds, 3-diethylamino-1 : 1-dithienylbut-1-ene hydrochloride (Thiambutene) produced in dogs effects ranging from mild analgesia and sedation to deep narcosis. Side effects were mild and included salivation and an increased tendency to defecation ; no vomiting occurred when the drug was injected parenterally. Small dogs were reported to require a larger dose per lb. bodyweight than large dogs, and the hysterical type of dog was found to be relatively resistant to the drug.

The effects of N-allylnormorphine (Nalorphine) as an antagonist of morphine were described by Unna (1943) and Hart & McCawley (1944). Antagonism of thiambutene by nalorphine was observed by Green & White (1952) and by Green, Ruffell & Walton (1954). The purpose of this paper is to describe the use of thiambutene in the dog where morphine would previously have been used and the abolition of the narcotic effects of thiambutene after the administration of nalorphine.

Methods

All the observations were carried out on dogs which had been admitted to the Liverpool University Veterinary Hospital and which varied in breed, age and weight. Thiambutene was administered for two main purposes : as a means of facilitating restraint for general clinical examinations or surgery under local anaesthesia, and for premedication prior to the use of anaesthetics. 120 dogs have now been treated and except where otherwise stated the observations reported in this paper were carried out on dogs which were not systemically ill at the time of injection. Thiambutene was injected intravenously during approximately one minute in a dose of 2 mg. per lb. ; very rapid injections were avoided. The drug was also injected subcutaneously into the neck in a dose of 10 mg. per lb. When nalorphine was used it was injected intravenously or subcutaneously in doses of 1 mg. per lb. The pulse and respiration rates of each animal were recorded by conventional clinical examination at frequent intervals. Temperatures were recorded by means of a sub-clinical mercury thermometer inserted into the rectum. The environmental temperature of the dogs was not rigidly controlled but was usually 60° F. Narcosis was assessed as follows :—

Light narcosis.—Effects ranging from a slight incoordination of gait to a well-marked ataxia ; restraint usually but not always facilitated ; skin sensation and reaction to simple external stimuli still present.

Medium narcosis.—Inability to stand but attempts to rise may occasionally occur ; head raising always in response to sounds and other external stimuli ; restraint and simple pre-operative treatment greatly facilitated ; response to needle pricks reduced, and muscular relaxation present.

Deep narcosis.—The dog lies quietly and does not readily respond to sounds and other external stimuli ; head raising sluggish or absent, and resistance to opening of jaws slight or absent : pedal reflex usually sluggish or absent ; abdominal relaxation complete and no resentment to abdominal palpation ; response to needle pricks slight or absent.

Materials

Thiambutene solutions were prepared by dissolving tablets (50 mg.) of Themalon obtained from Burroughs Wellcome & Co., in sterile water to produce a concentration of 25 to 100 mg. per ml. according to the dose required ; volume of solution injected was 0·5 to 5 ml. The nalorphine used was " Lethidrone " (Burroughs Wellcome & Co.) at a concentration of 20 mg. per ml.

Results

1. *Narcosis*

The narcotic effects observed after the administration of thiambutene to 79 dogs are shown in Table I. After intravenous administration, narcosis occurred rapidly and was usually complete within 10 minutes. The depth of narcosis varied but was usually medium or deep and lasted for periods up to two and a half hours ; the ability to walk usually returned within three hours. Light narcosis was produced in 10 animals and this effect usually lasted for 10 to 30 minutes. The typical effects produced by an intravenous injection of thiambutene into dogs of different ages are summarised in Table II. (*overleaf.*)

TABLE I

SUMMARY OF THE NARCOTIC EFFECT OF THIAMBUTENE

Route of Administration	Light	Medium	Deep	Total
a Intravenous ...	10	23	19	52
b Subcutaneous ...	9	9	9	27

(a) Injected intravenously into 52 dogs in doses of 2 mg. per lb.

(b) Injected subcutaneously into 27 dogs in doses of 10 mg. per lb.

TABLE II

TYPICAL EFFECTS PRODUCED BY AN INTRAVENOUS INJECTION OF THIAMBUTENE (2 MG. PER LB.) IN FIVE DOGS

Case	Breed	Age	Weight (lb.)	Operation performed	Narcosis	Return of ability to walk (hours)	Complete recovery (hours)	Remarks
1	Alsatian	5 weeks	8	Operation Umbilical Hernia	Deep	1	2½	Apnoea on induction. Procaine injected locally.
2	Terrier	5 months	12	Reduce and set fracture radius	Medium	1½	2	Adequate muscle relaxation obtained.
3	Terrier	2½ years	23	Dress abscess	Light	Always present	1¾	Inadequate control.
4	Terrier	5 years	18½	Abdominal palpation	Light	½	1¾	Palpation facilitated but relaxation not complete.
5	Spaniel	6 years	40	Excision of skin tumour	Deep	2½	5	Procaine injected locally

The onset of narcosis after subcutaneous administration usually occurred after 5 to 10 minutes and reached a peak about 30 minutes later. The effect varied from light to deep narcosis and, as may be seen from Table I, of the 27 dogs injected, light, medium and deep narcosis was produced in equal numbers. The effects of a subcutaneous injection, in contrast to those after an intravenous injection lasted longer and the period of recovery varied from 6 to 11 hours (Table III).

In a number of dogs the analgesic effect was tested by a syringe analgesiometer (Green, 1952). Dogs which were lightly narcotised always responded when the plunger was depressed to 10 ml. but no response was obtained when the animals were deeply narcotised.

2. *Changes in Pulse, Respiration and Temperature*

Significant changes in the pulse rate were rarely observed after thiambutene. Thus, five minutes after intravenous injection in 20 dogs the pulse rate in four was increased by 20 to 40 per cent. of the pre-injection rate and in two a decrease of a similar magnitude occurred. Ten minutes later the pulse rate of 16 dogs was within normal limits and in four was decreased between 20 and 40 per cent.

Substantially similar results were obtained after subcutaneous injection, half an hour after which the pulse rate was increased in one dog and decreased in two dogs. One hour after subcutaneous injection the pulse rate in 13 dogs was normal and in seven dogs was decreased between 20 to 40 per cent.

The changes observed in the respiratory rate after the intravenous administration of thiambutene are shown in Fig. 1, which indicates the variation in response of 20 dogs, five minutes and 15 minutes after the injection. These changes were not related to the depth of narcosis produced. At no time did the decreases in respiratory rate give rise to concern. In Fig. 2 the effects on respiration rate are recorded after subcutaneous injection of thiambutene, from which it will be seen that only two dogs showed severe depression of respiration, and in these the respiration rate was still not less than 25 per minute.

The effects of thiambutene in lowering the body temperature of 30 dogs are shown in Fig. 3. The maximum fall in temperature ranged between 0·5 to 9·2° F. These changes appeared to be directly related to the degree of narcosis produced for the dogs in deep narcosis showed a greater fall in temperature than those which were lightly narcotised. The fall in body temperature did not appear to produce any adverse effects in any of the dogs.

3. *Side effects*

Relatively few side effects were observed and these are conveniently classified as (a) mild and (b) severe.

(*a*) *Mild effects.* — In the early stages of narcosis increased salivation occurred in 23 out of 60 dogs. Two dogs defecated shortly after the injection of thiambutene and 10 others during the recovery phase. Constriction of the pupil was usually present in all dogs which were in medium or deep narcosis. Rotation

TABLE III

TYPICAL EFFECTS PRODUCED BY A SUBCUTANEOUS INJECTION OF THIAMBUTENE (10 MG. PER LB.) IN FIVE DOGS

Case	Breed	Age	Weight (lb.)	Operation performed	Narcosis	Return of ability to walk (hours)	Complete recovery (hours)	Remarks
6	Terrier	3 months	16½	Abdominal palpation	Deep	5	11	Muscle relaxation complete.
7	Terrier	10 months	14	Abdominal palpation	Deep	3½	6	Muscle relaxation complete.
8	Terrier	2 years	30	Operation on digit	Medium	4½	10	Procaine injected locally.
9	Spaniel	3 years	36	Excision of skin tumour	Light	Always present	6	Procaine injected locally.
10	Cross Collie	6 years	36	Lance abscess	Medium	3	6	Analgesia adequate; procaine not necessary

of the eyeballs usually occurred shortly after an intravenous injection and just prior to the onset of deep narcosis.

(*b*) *Severe effects.*—Severe toxic effects were not observed in any of the dogs which were injected subcutaneously.

Convulsive movements of the limbs were produced in 6 out of 70 dogs injected intravenously. This was observed shortly after injection and these movements ceased within five minutes. No treatment was necessary and recovery from narcosis was uneventful.

Apnoea was observed in two young puppies (five and eight weeks) one minute after injection. The heart continued to beat strongly and after the applica-

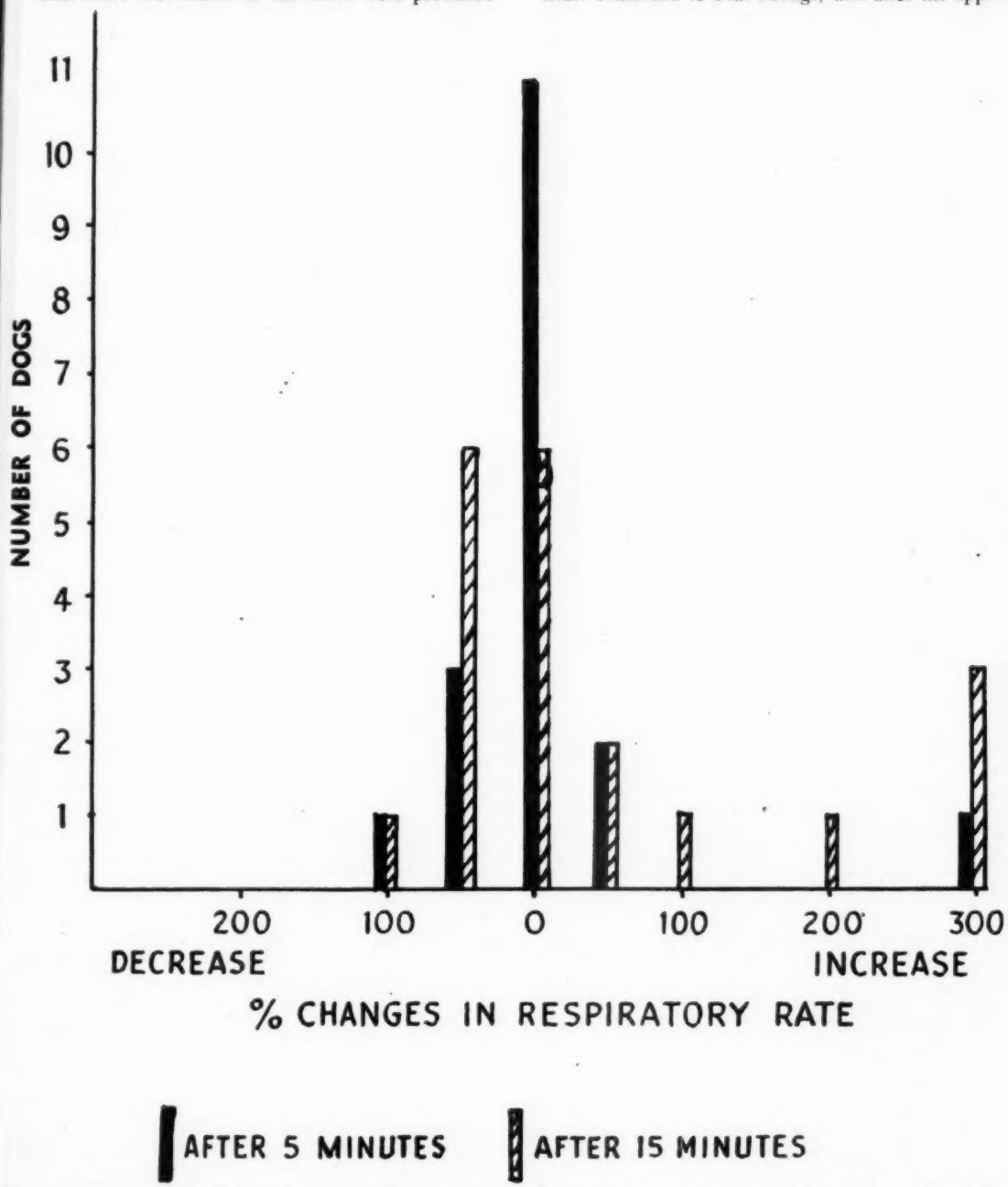

FIG. 1.—Percentage changes in respiratory rates of 20 dogs, 5 minutes and 15 minutes after intravenous administration of thiambutene.

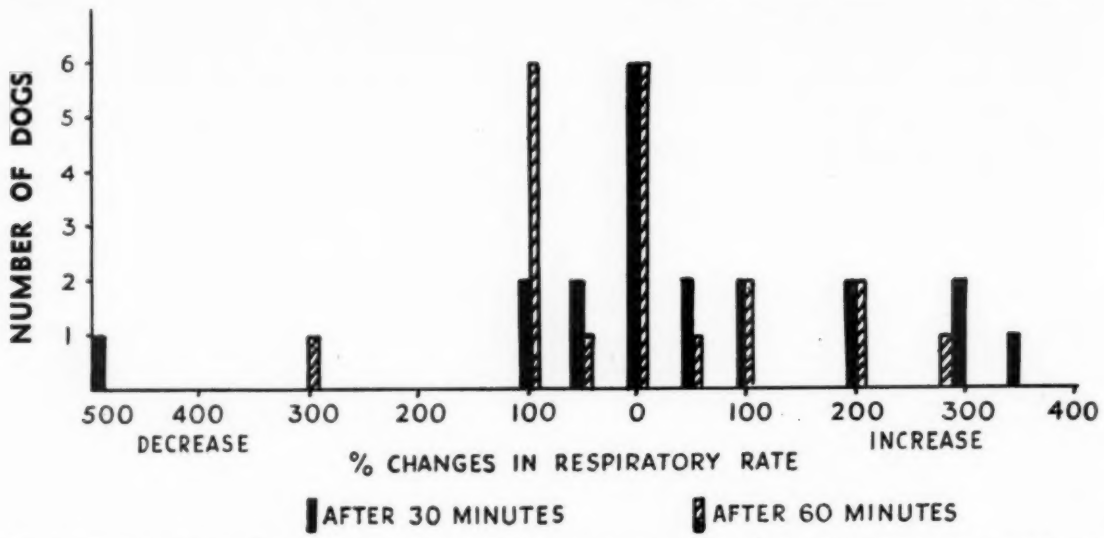

FIG. 2.—Percentage changes in respiratory rate of 20 dogs, 30 minutes and 60 minutes after subcutaneous administration of thiambutene.

tion of artificial respiration for three and eight minutes, spontaneous respiration began and was maintained at a rate of 30 to 40 per minute.

Struggling and high pitched barking occurred for a few seconds in two dogs immediately after intravenous injection but was quickly followed by light narcosis from which recovery was uneventful.

Only one death occurred in the series of 120 dogs injected with thiambutene. The fatal case concerned a six-year-old bulldog with severe dyspnoea and continuous salivation which was injected with thiambutene and a local anaesthetic ("Parsetic") prior to the removal of a urethral calculus. The dog became cyanosed shortly after the intravenous injection of thiambutene but this was successfully combated after the introduction of a tracheal cannula. Throughout the medium narcosis which followed, salivation was excessive. Immediately after operation, nalorphine (1 mg. per lb.) was injected intravenously and the tracheal cannula was removed. The dog was able to walk within 10 minutes, but the severe dyspnoea persisted for several hours and the dog died during the night. The only significant *post-mortem* changes were congestion of the lungs. Seven other brachycephalic dogs had previously been successfully narcotised, but similar cases have since received premedication with atropine prior to the administration of thiambutene.

4. *The termination of Thiambutene Narcosis by Nalorphine*

The effect of nalorphine on narcosis was observed in 12 dogs which had been injected intravenously with thiambutene. In all cases there was rapid recovery from narcosis and the animals were able to walk within five minutes. The typical response of six dogs is shown in Table IV. An increase in pulse and respiratory rates was observed in 10 dogs and in two dogs with hyperpnoea during narcosis the respiration rate became normal after nalorphine. Constricted pupils also returned to normal. When these animals were allowed to lie quietly they usually fell asleep about 15 minutes after the injection of nalorphine. They were easily aroused, however, and they immediately became active and appeared normal.

TABLE IV

EFFECT OF NALORPHINE (1 MG. PER LB. INTRAVENOUS) ON SIX DOGS PREMEDICATED WITH THIAMBUTENE (2 MG. PER LB. INTRAVENOUS)

Case	Narcosis	Interval between Thiambutene and Nalorphine injections (minutes)	Head raising after Nalorphine (minutes)	Ability to stand after Nalorphine (minutes)
1	Deep ...	22	1	2
2	Deep	25	½	5
3	Deep ...	26	½	3
4	Deep	47	½	½
5	Medium	17	1	2
6	Medium	23	2	4

Similar results were obtained in four dogs which were given nalorphine following subcutaneous injection of thiambutene. Where a marked fall in body temperature had occurred during thiambutene narcosis pronounced shivering was observed after the injection of nalorphine, and the body temperature rapidly returned to normal.

The response to nalorphine injected subcutaneously was more delayed. Head and limb movements occurred within five minutes and the dogs were able to walk within about 20 minutes.

Discussion

The results observed in this study of the effects of thiambutene have shown that this drug, like morphine, is a valuable analgesic for the relief of pain and by its narcotic effect facilitates restraint during examination of the mouth and pharynx, teeth scaling and the removal

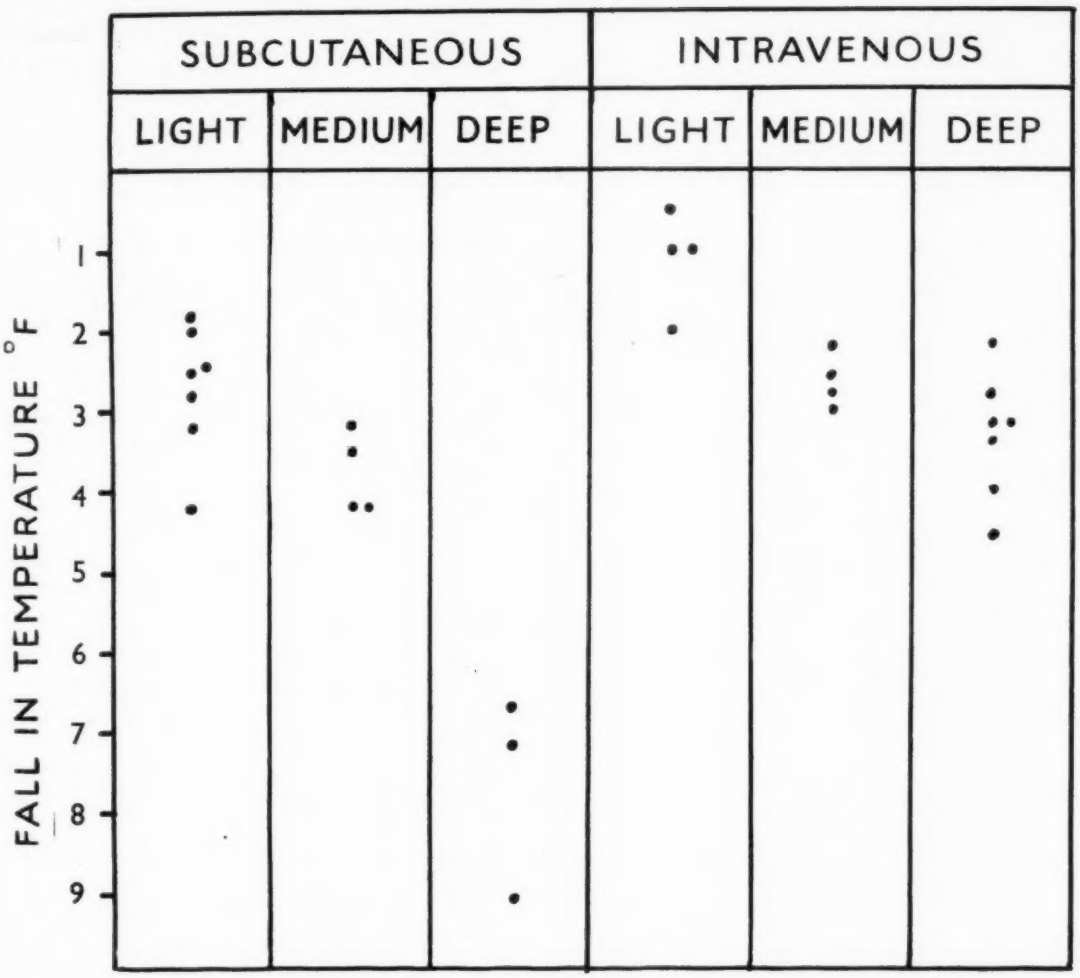

FIG. 3.—Effect of thiambutene on depression of body temperature in 15 dogs injected subcutaneously and 15 dogs injected intravenously. The degree of narcosis is shown and the temperature fall was the maximum recorded in each case.

of loose teeth in old dogs. Furthermore, the production of muscular relaxation enables effective abdominal palpation to be carried out, and the application and removal of plaster casts is facilitated. It can also be used for premedication prior to anaesthesia with a volatile or non-volatile agent and as a narcotic for operations carried out under local anaesthesia.

Thiambutene produces no severe changes in pulse or respiration rate and where a fall in body temperature was observed after injection of the drug, this had no deleterious effect. The depth of narcosis produced by thiambutene, like that after morphine, varies considerably and does not appear to be directly related to the method of administration since light narcosis was observed after intravenous as well as after subcutaneous injection. The doses used in this study appear to be safe ; namely, 2 mg. per lb. bodyweight intravenously and 10 mg. per lb. subcutaneously. Further experience with the use of this drug in young puppies may indicate that a smaller intravenous dose is desirable, since in the only two observed in this series, apnoea occurred after the intravenous administration of 2 mg. per lb.

Unlike morphine, thiambutene produces few side effects and the absence of vomiting and the reduced incidence of defecation are distinct advantages of the drug.

Although two dogs showed initial brief excitement after thiambutene, this was unusual and excitement has not been observed during clinical examination or surgical operations. When used intravenously in four dogs for the treatment of post-distemper chorea no alleviation of twitching occurred and convulsive movements still remained while the dogs were narcotised. The narcotic effects of thiambutene are rapidly terminated by the intravenous injection of nalorphine. The dogs quickly recover and this enables them to be returned to their owners, thus avoiding the necessity for retaining them in the hospital overnight. The

particular advantages of thiambutene narcosis and nalorphine recovery have been seen in brachycephalic breeds where the difficulties in respiration during and after narcosis are usually greatly diminished.

Summary

The narcotic and other actions of thiambutene have been studied in 120 dogs of various breeds. The drug was administered in doses of 10 mg. per lb. bodyweight subcutaneously or 2 mg. per lb. intravenously. Light, medium or deep narcosis was produced after intravenous of subcutaneous administration of the drug; medium and deep narcosis were observed more frequently when thiambutene was given intravenously. No adverse changes were observed in the pulse or respiratory rates; a fall in body temperature was frequently noted but this did not impair the recovery of the dogs. Increased salivation or defecation occurred in 37 dogs and the only serious toxic effects consisted of convulsive movements of the limbs or apnoea, which were seen in six dogs and two puppies after intravenous injection. The narcotic effects of thiambutene are rapidly terminated by an intravenous injection of nalorphine and a mild hypnotic effect often appeared later in dogs so treated. The only death occurred in a severely dyspnoeic bulldog which died several hours after operation.

Acknowledgments. — I wish to thank Professors A. Wilson and J. G. Wright for help and advice throughout the work and Mr. A. C. Shuttleworth for his valuable co-operation with certain surgical cases.

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Rabies in Malaya. By C. E. Gordon Smith and C. W. Wells (1955) Bulletin No. 8., Institute for Medical Research Federation of Malaya.

The Bulletin has been written to provide the medical and veterinary professions with a short and readily accessible account of present-day knowledge of rabies. There is an introduction, two chapters, bibliography and appendices. The first chapter is devoted to rabies in man and deals with the clinical syndromes of the disease, aetiology, pathology and prophylactic treatment. The latter section is perhaps the most interesting in this chapter as it takes the reader into a great many details of immediate measures and vaccine treatment.

The second chapter is mostly devoted to canine rabies, the disease in other animals being dealt with only in a paragraph or two. This is rather a pity because there is no doubt that the authors could give much more information on this subject.

Recurrent Colic in a Hunter Gelding Associated with Peri-intestinal Abscess Formation

BY

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Subject

A four-year-old grey hunter gelding.

History

This animal had been at grass for a considerable time, and was brought into stables in March, 1954, and fed heavily on cereals and hay, in an attempt to improve its poor bodily condition before putting it to work. The horse, however, steadily lost weight, although it was treated with phenothiazine for suspected strongyle infestation. The first attack of colic, acute in nature, took place three weeks before the animal was admitted to the Field Station; a second occurred three days later, and from that time until admission bouts of colic were of daily occurrence.

Examination and Treatment

On arrival at the Field Station the animal weighed 9 cwt. Body temperature was 101° F., and pulse was 34. The horse was in poor condition, with a tucked-up abdomen and staring coat. Behaviour, however, was normal and appetite good. Faeces were plentiful but soft, and contained an appreciable quantity of undigested oats. No abnormalities were found on rectal examination. Faeces examination showed 100 strongyle eggs per gramme only, a count which indicated that the worm burden was negligible, as it was more than 14 days since phenothiazine had been administered and its depressive effect on the egg-laying capacity of the surviving strongyles should have become insignificant.

An acute attack of spasmodic colic occurred a few hours after arrival; the animal first becoming uneasy, pawing with the forelegs, and turning its head towards its flank, and then groaning, rolling, lifting the hind-legs and sweating profusely. The injection of 4 grains of morphine sulphate subcutaneously brought about rapid relief and 15 minutes later the horse was behaving normally and eating, with pulse and temperature normal.

On the second day a slight attack occurred at about 10 a.m. comprising some uneasiness and abdominal discomfort, shown by pawing with the forelegs and turning the head to the flank. No treatment was necessary.

It was decided that the animal would be less likely to injure itself during attacks if placed in a paddock; it was put on a fairly good pasture, remaining there under observation for 12 days. For the greater part of this period behaviour was normal, appetite good, and appearance bright and contented. Each morning, however, usually between 9 a.m. and 10 a.m., signs of slight abdominal discomfort and uneasiness were shown, lasting from 10 to 20 minutes at a time, and requiring no treatment. Occasionally symptoms were observed at other times, and it was noticed that each bout of discomfort was followed by considerable evacuation of flatus, after which the

animal became normal again. It is possible that this regular morning attack of mild colic was associated with a large early morning food intake after a night's rest. Urine examination on several occasions revealed no abnormality of kidneys or bladder.

On the 13th day after admission the horse weighed 9 cwt. 44 lb.—a gain of 44 lb. It remained at grass for a further 18 days in which it gained another 24 lb., and four days after this weighing it was brought in to a loose-box so that "dry" feeding might be initiated. During the past three weeks signs of colic had been shown on three occasions only, all slight, and all occurring during the morning period. Apart from these occasions the animal had appeared to be normal and was steadily improving in condition. It remained in the loose-box for four days receiving mashes and hay, but although eating well and showing no colicky symptoms, it lost 20 lb. weight during this period. A noticeable feature was the large amount of flatus passed.

It was returned to grass and remained normal for 24 days, save for two acute attacks of spasmodic colic. The first occurred three and a half hours after the administration of 30 grammes of phenothiazine in a bran mash, and was relieved by the injection of 4 grains of morphine sulphate. The second took place during one morning, but subsided untreated in an hour. At the end of this period the horse had gained 96 lb. in nine weeks.

It was obvious that if this animal were to be hunted it must be able to utilise a full working ration, and so it was again brought in and given meadow hay with two small feeds of oats daily. After six days of normality another bout of spasmodic colic occurred, and it was once more turned out to grass where, except for occasional short periods of discomfort, it remained quite normal for a further 10 days. At this point it was decided that the prognosis was grave in that it was highly unlikely that the animal would ever be able to hunt: also it was felt that the humanitarian aspect demanded some consideration. The animal was, therefore, destroyed nearly 12 weeks after admission to the Field Station.

Post-mortem Examination

The abdominal cavity contained a small amount of bloodstained fluid, and small areas of peritonitis were present. A hard fibrous mass about the size of a coconut was found adherent to, and surrounding, a portion of the small intestine 8 feet posterior to the pylorus. This object was dissected out and the contained gut opened; partial occlusion of this length of intestine had occurred. Pressure on the lesion caused yellowish pus to exude into the lumen of the bowel through a small sinus, and further dissection of the lesion, which was also firmly adherent to omentum, showed that it consisted largely of fibrous tissue with several large intercommunicating pockets of pus. Histologically the lesion was entirely fibrous in nature, with one or two small areas of leucocyte infiltration, but no organisms were found in these areas. Bacteriological examination of pus from the lesion, however, revealed the presence of a wide zone β-haemolytic streptococcus resembling *Streptococcus equi*, but which did not group accurately with this organism, as sugar reactions were indefinite.

Discussion

The question arises as to how such a lesion developed at this site. The presence of the sinus into the lumen of the bowel, and the fact that the lesion was entirely fibrous in nature, suggests strongly that it arose as a result of penetration of the bowel wall by a foreign body, possibly a nail or piece of wire. A very careful search of the lesion was made, but nothing of the sort was found. It is interesting to note that although body temperature was taken many times there was never any significant rise.

It is also interesting that the animal was able to live comparatively normally, and to gain weight rapidly on a grass diet, but lost weight rapidly, and showed much more severe symptoms, when kept in and fed on cereals and hay.

Summary

A case of recurrent colic in a hunter due to a suppurating fibrous lesion involving a portion of jejunum is described.

Common Law and the Veterinary Surgeon

provocation. It should be noted that there is a duty upon the veterinary surgeon to use the standard of skill that would be expected from the average qualified man and, if he makes use of unqualified assistance it is his responsibility if that assistance in its skill and care falls below the standard of the average qualified practitioner. The best advice I can give to a veterinary surgeon in regard to the tort of negligence is to belong to a good professional protection association.

Defamation

It is not likely the veterinarian would commit defamation, apart from irresponsible testimonials, but it might be committed by his staff as mentioned earlier.

Defamation has two divisions—spoken, which is slander, and written, which is libel. Slander is not actionable of itself unless actual damage can be proved, the exceptions being a suggestion that a person has committed a criminal offence punishable by imprisonment, that a person has an objectionable contagious disease, that a person is unfit for his office, profession or calling, or the imputation of unchastity to a woman.

The subject of libel is too wide to deal with adequately, but I shall say a few words about testimonials. Nobody is forced to give a testimonial, but if one is given, it should be honest and free from malice. Open testimonials are, in any case, dangerous, and professional men would be wise only to give a testimonial to a prospective employer in answer to a specific request. Open testimonials are probably valueless anyway, because no employee would send a copy of a testimonial which was not flattering to himself. It would be a good thing if, in the profession generally, people ceased to ask for copies of testimonials and stated names of persons for reference only where required. A confidential enquiry could then be put to the persons named as references, and any honest reply would possess privilege guarding against an action for libel.

Atheroma of the Aorta Associated with Dissecting Aneurysms in Turkeys

BY

R. B. A. CARNAGHAN

Ministry of Agriculture, Fisheries and Food, Veterinary Laboratory, Weybridge

Introduction

MORTALITY in turkeys due to internal haemorrhage was first discussed at the Annual Convention of the American Veterinary Medical Association, 1952. Several delegates referred to sudden deaths in turkeys, which, on *post-mortem* examination, showed a large blood clot in the abdominal cavity emanating from the posterior aorta.

McSherry, Ferguson & Ballantyne (1952) reported similar cases in Ontario and studied one outbreak in detail. Histological examination showed that the fatal haemorrhage had occurred as a result of a dissecting aneurysm in the posterior aorta.

Similar cases have been seen occasionally at Weybridge during the past three years. In the autumn of 1954 the condition was encountered in flocks of turkeys on four different premises. Eight birds were examined in all and four of these were from one outbreak. In each instance the birds were of the American Mammoth Bronze breed and seven of them were males, the age incidence varying from 11 to 20 weeks. On three of the premises the birds were kept intensively while on the fourth they were on free range. Each of the farms used different brands of proprietary foodstuff.

The outbreak from which four carcases were examined was investigated in some detail.

History

One hundred day-old American Mammoth Bronze poults had been purchased in two lots of 50; the first on July 7th and the second a week later. The poults were reared intensively on wire floors until eight weeks of age and were then transferred to slatted-floor verandas. They were fed entirely on a proprietary brand of turkey starter mash for the first four weeks followed by turkey grower's mash until they were 10 weeks of age when whole oats were substituted for the evening mash feed. Three poults died of unknown causes during the rearing period.

Between September 21st and October 11th seven deaths occurred and four of the carcases were examined at the laboratory. An examination of the remaining three was made by the owner who reported that in each case there was a large blood clot present in the abdomen.

The birds were all apparently healthy and death occurred suddenly without previous symptoms.

Gross Pathology

The specimens were all in excellent bodily condition. On opening the carcase a large blood clot was seen in the abdominal cavity (Plate I). After removing the viscera and intestines a further quantity of blood was seen below the left kidney capsule. Apart from an anaemic appearance the viscera showed no abnormalities.

Bacteriological examination was carried out on every specimen but with negative results.

The carcases were immersed in 10 per cent. Formalin for 48 hours prior to dissecting the aorta. In each case the haemorrhage had occurred from a rupture in the left lateral wall of the posterior aorta between the origins of the external iliac and sciatic arteries (Plate II). The lesions in the arterial wall measured from 0·8 to 1·6 cm. long.

On opening the aorta in the longitudinal plane the wall of the vessel was seen to be dissected by a mass of clotted blood, the inner layer being separated from the outer by the haemorrhage. The wall of the vessel appeared to be of normal thickness throughout its length.

Histology

The aortas were fixed in 10 per cent. formol saline, embedded in paraffin wax and sections cut at intervals throughout the lesion. Sections were stained by Ehrlich's haematoxylin and eosin, Weigert-French and van Gieson's stain. A few sections were stained by von Kossa's method for calcium and frozen sections by Scharlach R for fat.

Sections taken at the anterior part of the lesions showed a rupture to have occurred in the arterial wall involving the intima and media although the external elastic lamina was intact. Early separation of the muscular layer from the outer elastic lamina was apparent. The tunica intima in the region of the lesion was considerably thickened and showed a marked increase in elastic fibres with pronounced fatty degeneration (Plate III). The muscle fibres of the media showed degenerative changes and there was a marked increase in connective tissue fibres in the adventitia in the region of the rupture.

Sections obtained from the centre of the lesion show the intima and muscular coats of the media to be intact while the outer elastic lamina was almost completely detached from the muscular layer by blood (Plate IV). In this region there was a marked thickening of the intima with the formation of an eccentric intimal plaque consisting of fibrous tissue and containing spindle-shaped cholesterol clefts (Plate V). There was a marked increase in elastic fibres in the intima underlying the plaque.

The lesions would appear to be a dissecting aneurysm of the aorta associated with the formation of an atheroma.

CARNAGHAN, R. B. A.—ATHEROMA OF THE AORTA ASSOCIATED WITH DISSECTING ANEURYSMS IN TURKEYS

PLATE I.

PLATE II.

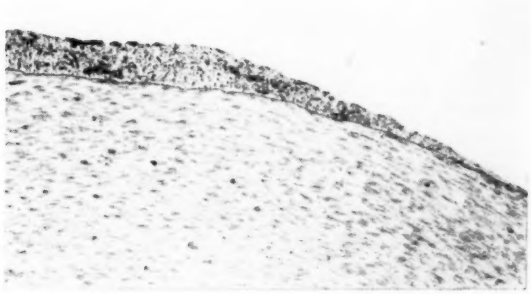

PLATE III.—Showing thickening and fatty degeneration of the intima. Stained Scharlach R × 100.

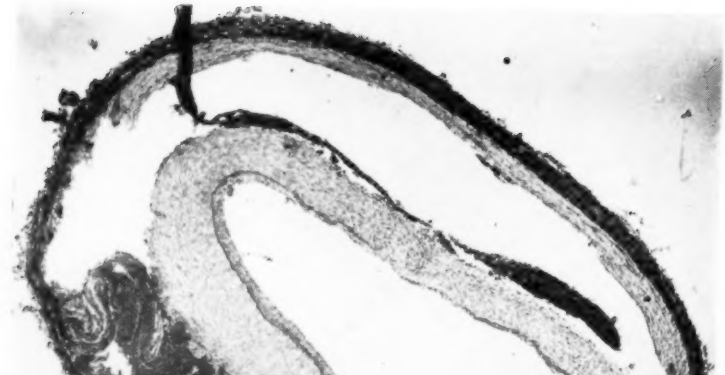

PLATE IV.—Showing dissection of the tunica media by blood clots. Scharlach R × 57.

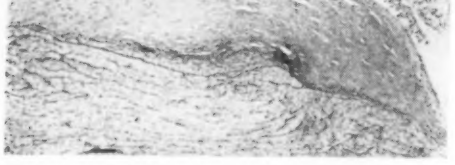

PLATE V.—Showing formation of intimal plaque. Stained Weigert-French × 100.

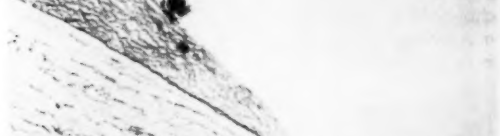

PLATE VI.—Lesion in the intima of healthy turkey. Weigert-French × 100.

In view of the number of cases which were encountered in this flock and of the excellent bodily condition of the birds it was thought that the condition might well be dietetic in origin. A visit was made to the premises and an apparently healthy male turkey selected and killed. Sections were taken at intervals throughout the aorta. Examination of these sections showed the formation of a raised area in the tunica intima consisting of fibrous tissue with a marked increase in elastic fibres (Plate VI). The lesion was similar to those seen in the dead birds and in the same position but there were no apparent degenerative changes in the intimal lesion.

Discussion

In its gross pathology the condition appears to be identical with that described by McSherry *et al.* These authors state that in the sections they examined the tunica intima appeared normal, but in the cases examined in the present investigation the changes in the intima were most marked and suggest that the condition is primarily due to an atheroma which leads to a dissecting aneurysm and final rupture of the arterial wall.

While the cause of the condition has not been established, certain factors indicate the possibility of it being dietary in origin. Recourse to the owner's records showed that the turkeys were significantly heavier than at the same age in the previous year when no losses from this condition had occurred. The birds which died were in exceptionally good bodily condition and were the heaviest ones in the flock. The suggestion that the condition is associated with a too rapid growth rate is borne out by McSherry's report that a subsequent batch of turkeys, in which there was a slower rate of growth, did not develop the condition.

The histological findings in the healthy specimen tend to confirm the opinion that the condition is primarily due to the formation of an atheroma.

Atheroma are uncommon in domestic animals, but Gottlied & Lalich (1954) have reported arteriosclerosis in pigs. Muir states that they can be produced experimentally in rabbits fed on considerable quantities of cholesterol dissolved in oil. In man, atheroma generally occurs only in adults and a resultant dissecting aneurysm is rare.

Summary

A dissecting aneurysm of the posterior aorta of turkeys associated with the formation of an atheroma is described.

Acknowledgments.—The author wishes to acknowledge the help received from the Pathological Department in the preparation of the histological material, and from Mr. L. M. Markson for the microphotographs. Also to Mr. S. A. Poulton for the photographs, and to Mr. J. D. Blaxland for his help in the preparation of this article.

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A Report on Two Cases of Surgical Fixation for Fractures Involving the Radius and Ulna in the Racehorse

BY

JOHN E. M. SPELLMAN
Victoria, Australia

Case 1

A fracture separation of the radius and ulna repaired by vitallium screws.

Subject

A five-year-old gelded galloper.

History

This horse fell in a flat race 14 days before being seen by the writer. The trainer reported that there had been a marked swelling of the elbow region which had subsided considerably. An X-ray examination of the elbow revealed a fracture separation of the ulna and olecranon process from the shaft of the radius. The pull of the triceps had drawn up the ulna and olecranon process pivoting on the posterior rim of the glenoid cavity, giving rise to a wide separation of the distal end of the ulna from the radial shaft. In view of the owner's wish to save the horse it was decided to perform an open reduction and fixation using vitallium screws.

Pre-operative treatment

Tetanus antitoxin and five million units of procaine penicillin G in oil were administered immediately before surgery.

Anaesthesia

The horse was anaesthetised standing, in a loose box on a deep bed of clean straw. Four grammes of thiopentone in 50 ml. of distilled water were given by rapid intravenous injection. This was supplemented by open chloroform when the horse was recumbent.

Technique

All instruments, drapes and swabs were autoclaved. The limb was fixed in maximum extension and drawn as far rearward as possible to allow access to the elbow region. The skin of the posterior proximal half of the forearm was shaved and painted with tincture of metaphen 1/200. The limb was then draped. An incision was begun some 2 inches below the point of the elbow and continued 6 to 8 inches down the back of the forearm, exposing the fascia. This was then incised the full length of the wound. The ulna head of the deep flexor was split by blunt dissection down to the periosteum of the ulna.

Strong mechanical retractors were employed to give free access to the bone. Haemorrhage was slight and readily controlled. The first screw track was prepared by drilling 1 inch below the posterior lip of the glenoid cavity. At this point separation of the bones was sufficiently small to permit the drill to traverse the ulna shaft and continue into the radius. A $3\frac{1}{2}$-inch vitallium screw of the fully threaded venables type of shaft (diameter 3/16 inch bearing ten threads to the inch) was then driven home. This screw almost completed the reduction. Some 3 inches below this a further screw of $2\frac{3}{4}$-inch length was similarly driven.

One million units of crystalline penicillin in aqueous solution were sprayed into the depths of the wound. The muscle wound was sutured with continuous No. 1 plain catgut, the fascia in a similar manner, and the skin with interrupted No. 0 black braided nylon.

Post-operative care

The horse was allowed to regain his feet in his own good time, which he managed without apparent damage to the operation. 1,500,000 units of procaine penicillin G in oil were injected daily for five days. The wound was dressed daily with normal saline followed by a light application of fly repellent. No tissue nor temperature reaction to the surgery were noted. The screws were left in position for six months during which period the horse was turned out in a small paddock. An attempt to remove the screws under local anaesthesia failed, and the removal was carried out under general anaesthesia as before. The resulting wound was re-sutured and penicillin and tetanus antitoxin were given. The wound healed without complication. Six months later the horse ran in two races and did quite well, despite an appearance of being apprehensive of the track.

★

Case 2

An oblique mid-shaft fracture of the radius immobilised by Kirschner-Ehmer splinting.

Subject

A four-year-old pacer stallion.

History

This horse had sustained an oblique mid-shaft fracture of the off radius following a fall on the track the previous day. When first seen the limb was a typical "swinger" with the forearm swollen and tense, but not particularly painful to manipulate. The sharp end of the proximal segment of the fractured radius could be felt subcutaneously on the medial aspect of the forearm in the area junction middle and lower thirds. By forced adduction of the limb the upper end of the distal segment could be located in the middle third of the lateral aspect of the forearm. It appeared that there was sliding of the broken ends obliquely upon each other, rather than true over-riding.

In view of the animal's potential stud value and the owner's wish to save him, it was decided to attempt a Kirschner-Ehmer splinting. At this stage a plaster wrap cast of 6-inch bandages was applied, and the patient was placed in slings. Nearly a month elapsed before a Kirschner-Ehmer splint of sufficient strength to cope with the estimated stresses could be manufactured, and during these weeks the cast tended to loosen as swelling of the limb subsided. Nevertheless, the cast was of great value in limiting further trauma to the local tissues in the area of the fracture, and in fact, when the cast was removed immediately prior to pinning, the forearm was very little swollen by comparison with its fellow. This lack of exuberant callus formation greatly facilitated the manipulation necessary for final reduction, which was carried out with reasonable ease assisted by single block traction on the pastern.

Pre-operative treatment

Tetanus antitoxin and 5,000,000 units of procaine penicillin G in oil were administered immediately before surgery.

Anaesthesia

This was administered by Mr. F. H. Wiltshire, M.R.C.V.S., of Dandenong, Victoria. Anavenol K was given standing, supplemented later by open chloroform and local anaesthesia.

The splint

This consisted of four 9-inch diamond pointed pins made of 18/8 non-magnetic stainless steel 5/16 inch in diameter. Connecting bars and clamps were made from S.D.12 air-hardened nickel chrome steel.*

Technique

All instruments, drapes and swabs were autoclaved. The operation was performed in the loose box on a deep bed of clean straw, with the limb resting on a wooden box of convenient height and held in maximum extension by a tackle. The plaster cast was removed and the limb thoroughly cleansed. The entire lateral aspect of the forearm was shaved, dressed with tincture of metaphen 1/200 and the drapes applied. The pin sites were then plotted in relation to the fracture and at each site 5 ml. of 2 per cent. procaine local anaesthetic solution were infiltrated down to the periosteum. Over these sites the skin was incised sufficiently to permit the free entry of the ¼-inch hand-operated drill. The pins were then driven along the drill tracks using a small hand chuck normally used in intramedullary pinning in the dog. This proved to be a most laborious business, and a geared brace or power drill would have been of great assistance. The pins were driven to protrude about ¼ inch beyond the medial cortex, the connecting bars were affixed and clamped, and the horse was allowed to regain his feet in his own time.

* This material was prepared by the Bell Balfour Steel Corporation of Sheffield, and the apparatus was manufactured by H. A. Taylor & Sons, Surgical Instrument Makers of Melbourne.

Post-operative care

As in the previous case, 1,500,000 units of procaine penicillin G in oil were administered daily for five days. No sepsis developed, and after 14 days the horse was turned out to grass. Four and a half months later the pin assembly was removed as union appeared to be complete. No anaesthesia was found to be necessary for this to be done. The wounds were given a single dressing with penicillin ointment covered with tulle gras and bandaged; this dressing was removed a week later. A single dose of 2,000,000 units procaine penicillin G together with tetanus antitoxin were given. Healing of the wounds was uncomplicated, although some radial nerve injury was apparent. The horse has been used since at stud for one season, and there has been a steady improvement in the usefulness of the limb.

Summary

It is apparent from this limited experience that surgery of the radius and ulna in the horse for these uncomplicated fractures presents no insuperable difficulties despite the conditions under which this work must almost always be carried out. With adequate antibiotic treatment these horses did not appear to be any more susceptible to bone and tissue sepsis than is the dog, in which subject bone surgery has become a routine. In Case 2 the lengthy delay in resorting to surgery did not prevent a repair adequate to the requirements of stud duties. However, it would be reasonable to expect that if this operation had been carried out earlier, as soon as local trauma permitted, the end result would have been correspondingly better.

Acknowledgments.—The writer wishes to acknowledge the co-operation of Mr. F. H. Wiltshire, M.R.C.V.S., in providing Case 2 for operation, for his administration of the anaesthesia, and the post-operative care given in his hospital.

Acknowledgment is also made of the assistance given by Mr. H. A. Taylor of the firm responsible for the manufacture of the special Kirschner-Ehmer splint.

The Royal Show

From a Veterinary Correspondent

THIS year's Royal Show, held in the park surrounding Wollaton Hall, Nottingham, was a most successful occasion. The attendance figures were 185,527 over the four days and the Show was visited by Commonwealth and foreign visitors from over 60 countries. The Queen and the Duke of Edinburgh, the Duke and Duchess of Gloucester and H.R.H. the Princess Royal made official visits in the first two days. The Queen presented the Royal Agricultural Society's gold medal for distinguished service to agriculture to Sir James Scott Watson, C.B.E., M.C., lately Director of the N.A.A.S. The Society's medal for research was awarded to Mr. F. C. Bawden, M.A., F.R.S., a leading authority on the virus diseases of crops. A delegation of agriculturists from the U.S.S.R. spent two days on the ground and showed the liveliest interest in all aspects of farming. It was headed by Mr. Mayat, Deputy Minister of Agriculture of the Russian Federation. The last day was children's day, when 22,000 school children added to the throng already present.

The livestock entries were not as numerous as those of the previous year. An effort had been made to reduce " absentees " or entries that do not arrive. This was done by doubling the entrance fees, half of which were returnable if the animal was withdrawn a fortnight before, or if a veterinary certificate accounted for the absence. There were also arrangements to book cubicles for stock attendants, an amenity greatly appreciated.

A continuous programme of events in the main ring included heavy draught teams, four-in-hand coaches and hackneys, as well as the parades of prize-winning cattle, horses, pit ponies and fox hounds, and sheep dog demonstrations. The Royal Horse Artillery performed their military display, which must be one of the greatest tests of the judgment of each rider and the fitness of the horses.

A magnificent flower show, and various forestry exhibits, added to the variety and colour of the occasion.

An exhibition of early farm equipment arranged by the Reading University Museum of English Rural Life, showed the progress of mechanisation of implements. It was interesting to see that a horse tail docker is now considered to be an item of historical interest ! A Longhorn cow from Warwickshire was a live exhibit, and represented one of our earliest

improved breeds. A mantrap, complete with capture, showed us another aspect of life in Merrie England. Shoeing competitions were held daily at the forge, and farriers from the R.A.V.C. depot at Melton Mowbray were represented.

In the cattle section, Penatok Crusader a Hereford bull owned by Mr. Stacey Jones, of Hay-on-Wye, helped to win the Burke Trophy for the outstanding pair of male and female animals of the nine beef breeds represented at the show. His owner refused the sum of £20,000, which is £4,000 more than the highest price paid for a bull sent to the U.S.A. Messrs. Morgan Jones, of Sugwas, Hereford, were the owners of the female Hereford in this pair, Sugwas Oyster Lassie. The Burke Trophy for dairy and dual purpose animals, was won by Lieut.-Colonel William Forbes, Easton, Norfolk, with his cow Lanoch Countess, while the Ayrshire bull representative was Whitehall Mandate owned by Messrs. J. Lockhart & Son, of Tamworth.

The Ministry of Agriculture's exhibit showed the importance of feeding high quality fodder to stock. The importance of the wise use of concentrates during the winter, and when receiving adequate grass, was described. A demonstration of the recovery of pasture after rabbits had been eliminated by myxomatosis showed the value of treatment unless the land were to deteriorate into scrub later. The exhibit showing the unthriftiness caused by lice and mange in cattle during the winter attracted much interest. The stand also included a section on caecal coccidiosis in fowls and on how the greater danger from intensive systems could be controlled by management of the litter. The Animal Health Trust stand described some work on white scour of calves, including the phage typing of *B. coli*. The proposed new buildings of the Farm Livestock Research Station at Stock, Essex, were also shown. The work of the F.A.O. included two recent reports of veterinary interest. One was the Bombay milk scheme which involved the collecting together of all the small unhygienic dairies and the setting up of a well organised dairy outside the city. The other showed how losses from incorrect flaying and curing have been considerably reduced in Libya and India.

The health and comfort of all classes of stock seen at the show gave considerable satisfaction, especially when this was compared with the story of a prize bull shown by Thomas Bates at Oxford in 1839. The animal was driven from Yorkshire to Hull, shipped to London, taken by barge to Aylesbury, and then driven the remaining 26 miles to Oxford. On the return home this bull is reported to have lost 28 stones in weight !

The veterinary arrangements were under the control of Major W. J. Brennan DeVine, who with Professor Harold Burrow, was housed on the showground complete with surgery, office and sick bay. Major DeVine has carried out these duties for so many years that he must now be considered as an integral part of this great annual show !

News and Comment

UNIVERSITY NEWS

London

On July 1st, 1955, Mr. R. E. Glover, M.A., B.SC., F.R.C.V.S., assumed his office as Principal and Dean of the Royal Veterinary College.

DISTINGUISHED VISITORS TO THE R.V.C.

On July 11th and 12th the Royal Veterinary College was delighted to receive a further visit from an old friend, Professor Nils Lagerlöf of the Royal Veterinary College, Stockholm. On this occasion the College had the great pleasure of welcoming at the same time nine veterinarians from India and two from Thailand, all of whom had spent nearly a year at the F.A.O. International Training Centre on Animal Gynaecology, which is housed in Professor Lagerlöf's department at Stockholm. Under his guidance the members of the party were visiting some of the veterinary colleges of Europe before returning home to take up educational work in the field of animal gynaecology. The party included Mr. G. B. Singh, Director of Animal Husbandry and Veterinary Services, Orissa, Dr. K. K. Vyas of the Rajasthan Veterinary College, Bikaner, Dr. M. L. Kohli of the Livestock Farm, Hissar, Punjab, Dr. C. R. Sane of the Veterinary Department, Bombay, Professor Ishaqe of the Bihar Veterinary College, Patna, Mr. S. P. Verma of the Ministry of Food and Agriculture. New Delhi, Dr. M. C. Chellam of Madras, Dr. S. N. Luktuke of the Indian Veterinary Research Institute, Izatnagar, U.P., Dr. B. K. Basu of the Bengal Veterinary College, Calcutta, Professor M. P. Johari of the U.P. College of Veterinary Science and Animal Husbandry, Mathura and Dr. T. Sudhikum of the Department of Livestock Development, Bangkok, Thailand.

ANIMAL DISEASES RESEARCH ASSOCIATION

On the occasion of the Annual General Meeting of the Animal Diseases Research Association held at Moredun Institute, Edinburgh, on July 13th, a large number of guests assembled in perfect weather to witness the formal opening of a new block of buildings by the Duke of Buccleuch.

This new block houses the entomological and helminthological units of the recently established Parasitology Department, and has been designed to harmonise pleasantly with the existing buildings.

A new refectory for the use of the Institute staff, forming a separate building, was also declared open at the same time.

THE COMMONWEALTH BUREAU OF ANIMAL HEALTH

A Correspondent writes:—

The news of the retirement on the age limit of Mr. W. A. Pool, Director of the Bureau of Animal Health was received with profound regret. The " Bureau " and " Pool " had become synonymous terms as " the Bureau," indeed, had been created and built up by

him. The place it holds and its prestige amongst veterinarians the world over are a lasting tribute. It was with no ordinary interest, therefore, that the name of his successor was awaited, and one can say without hesitation that a wise choice indeed has been made in the appointment of Mr. M. Crawford. He has been assistant director for almost 10 years, and those who have met him have been greatly impressed not only by his unswerving loyalty but by his great interest in, and grasp of, the work of the Bureau. Crawford will carry on the tradition and strengthen further the position of this service.

He is a graduate of the Dublin School in the days of Craig, Kehoe, O'Connor and Browne. Qualifying in July, 1923, he had already impressed his colleagues in a very large year as being a thoughtful and brilliant student. The college bursary and numerous medals came his way and it was almost with regret that one learnt he had accepted the post of Assistant Government Veterinary Surgeon in Ceylon in January, 1924. On the retirement of Sturgess in 1933 he became Government Veterinary Surgeon; he had already made his mark in agricultural affairs in Ceylon, and those who knew him were not surprised when he was appointed Deputy Director of Agriculture (Animal Husbandry) in 1935, quite a distinction for a British veterinarian at a time when the spirit of nationalism was stirring in Ceylon. He retired from this post at the end of 1944 and in 1945 joined the staff of the Commonwealth Bureau of Animal Health. During his period of duty in Ceylon, Crawford accomplished much work for his profession and despite the many claims on his service found time for research work; this note is not intended to catalogue his activities in that field but mention must be made of the following.

The experimental elucidation of the causation of osteofibrosis of horses. This condition was a serious problem in Ceylon and Crawford's careful and painstaking work solved the problem. The late Sir Arnold Theiler spoke appreciatively of this work indicating that it was " the first time that a mineral deficiency of the larger farm animals had been produced experimentally."

As a research worker, however, Crawford has established a special place for himself by his discovery of *Plasmodium gallinaceum* in fowls and making it available to the late Professor Brumpt (Paris). The discovery of this parasite not only shed light on the malarial parasites of man but its value as a screening agent in the development of chemotherapeutic agents cannot be assessed. It was by using *P. gallinaceum* that the I.C.I. workers were able to synthetize Mepacrin, the drug which made it possible for our troops to carry on the campaign in such places as Burma, Sicily, etc. The new and very effective antimalarial drug Paludrine was also discovered and tested by using *P. gallinaceum*, so that Crawford's discovery has proved of prime importance in this field.

The appointment of a man of this calibre to carry on the good work initiated by Pool has given great satisfaction to veterinarians everywhere and he carries the good wishes of his many friends in his responsible task.

R.C.V.S JUNE/JULY, 1955 EXAMINATIONS

List of Successful Candidates

London

SECOND EXAMINATION.

Physiology only

Howse, J. N.

THIRD EXAMINATION.

Hygiene only

Bousfield, W. E. D.; Byrne, G. A.; Davison, R. S.; Holland, Wm.; Hughes, J. R.; Jones, W. A.; McKie, Miss E. M. C. E.; Pearce, J. S., Robbins, G. R.; Stocks, B. M.; Tanner, J. A.; Wilkinson, John.

Pathology only

Barnett, K. C.; Blackmore, D. K.; Blaxland, D. R.; Bruford, J. C.; Butler, B. C.; Chappell, L. A.; Clark-Lewis, A. V.; Cook, W. E. R.; Edgar, R. K.; Gill, E. A.; Girling, Miss M. J.; Hime, J. M.; Hollands, J. G. (credit); Irfan, M.; Jones, C. R. V.; Jones, R. H.; Lawrence, B. T.; Mason, J. A.; Mohratra, P. N.; Mullen, P. A.; Nelson, E. P. (credit); Newey, R. M.; Noordin, B. K. M.; Oke, M. A.; Owen, Geoffrey; Parkinson, K. D.; Prasad, A. K.; Ranger, M. J.; Rutherford, L. H.; Teale, M. L.; Terlecki, S. (credit); Thorp, A. C. B.

FINAL EXAMINATION.

Ahmad, Saeed; Baxter, C. J.; Bedson, I. F.; Bowles, Jeffrey; Brazier, J. F. H.; *Coryn, H. D.; Derbyshire, J. B. (s); Dier, B. G. F.; Down, B. C.; Evans, E. D.; Finn, C. A.; Gray, John; Gulati, J.; Heptinstall, Jack; Hudson, J. R.; Hyde, Miss K. B.; James, P. H.; Jones, T. H.; Kearns, M. P.; Kerry, J. B.; Lifton, J. M.; Markham, Keith; Naylor, D. C.; Norman, D. A.; Orhan, Ahmed; Pandit, C. N.; Rawson-Shaw, Miss E. A.; Shrimpton, D. F.; Simons, M. A. P.; Taylor, E. L. G.; Thurley, T. M.; Townsend, Miles; Vinsen, M. A.; Wall, L. J. T.; Ward, Anthony; Whitaker, D. L.; Williamson, D. C.; Wilson, Miss E. D.

* Denotes 2nd class honours. (s) denotes credit in Surgery.

Liverpool

FINAL EXAMINATION.

Bora, Lilaram.

PERSONAL

Births

CENCORA.—On June 27th, to Vera, wife of T. Cencora, M.R.C.V.S., a daughter, Vivienne June, sister for Michael and Stephanie.

FLEMING.—On July 17th, at Saffron Walden, to Judith *(née* Long) and Allan Fleming, a second son.

NESTEL.—On July 9th, 1955, at the University College (W.I.) Hospital, Jamaica, to Heather, M.R.C.V.S., wife of Barry Nestel, B.SC., M.R.C.V.S., Dept. of Agriculture, Hope, Jamaica—a daughter.

SLEE.—On July 11th, at Manor House, Market Rasen, Lincs., to June (*née* Chittleburgh) wife of Alan Slee, M.R.C.V.S., a sister for Kenneth Charles (Susan Jane).

Marriage

KEYWOOD—JUDGE.—The marriage took place on June 18th, 1955 at Christ Church, Esher, of Eric K. Keywood, M.R.C.V.S., and Gwenfron S. Judge.

ATROPHIC RHINITIS

Following the discovery of atrophic rhinitis in Landrace pigs imported from the Isle of Man, the Minister of Agriculture, Fisheries and Food has made an Order prohibiting the import from there of pigs, except those for immediate slaughter. Copies of the Order which came into operation on July 20th, may be obtained from the Ministry of Agriculture, Fisheries and Food, Hook Rise, Tolworth, Surbiton, Surrey.

COMING EVENTS

July

28TH (THURS.). President's Invitation Luncheon and General Meeting of the Midland Counties Division, B.V.A., at the Swan Hotel, Stafford, 12.30 p.m.

Special Meeting of the Technical Development Committee, B.V.A., at 7, Mansfield Street, London, W.1, 10.30 a.m.

September

4th to 10th. 73rd Annual General Meeting and Congress of the British Veterinary Association at Belfast.

8TH (THURS.). Summer General Meeting of Eastern Counties Veterinary Society at Cambridge. Tour of Veterinary School. President's Invitation Tea. Shipley Bowls Tournament.

ADDRESSES OF DISEASE INFECTED PREMISES

The list given below indicates, first, the county in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.

Anthrax

Derbyshire. Greenhead Farm, Biggin, Buxton (July 14).

Durham. Gainford Hall, Gainford, Darlington (July 16).

Kirkcudbright. Auchengibbert, Crocketford (July 8).

Notts. Warsop Cottage Farm, Shirebrook, Mansfield (July 9); Stonehills Farm, Normanton-on-Trent, Newark (July 11).

Sussex. Church Farm, Sompting, Worthing (July 12).

Yorks. East Appleton, Catterick (July 8); Moorhouse Farm, Haigh, Darton, Barnsley (July 9); Somerset House, Ingleby Cross, Northallerton (July 11); Marramatte Farm, Sledmere, Driffield (July 13); Lairgate, Bererley; Buddle House, Whaston, Richmond; Bush Farm, Ripley, Harrogate (July 14).

Yorks. Town End Farm, Ramskin Road, Stainforth, Doncaster (July 15); Hopewell Farm, May-a-Park, Knaresborough (July 18).

Fowl Pest

Berkshire. 98, Arthur Road, Windsor (July 15).

Bucks. "Moreton," The Lagger, Chalfont St. Giles (July 17).

Cambridgeshire. Barn Cottage, West Wickham (July 14).

Hampshire. Whiteheather, Grange Road, St. Leonards, Ringwood (July 13); Menceham House Farm, Hayling Island (July 14).

Kent. 2, Walnut Tree Cottage, Brenzett, Ashford (July 12).

London. 36, Stockwell Green, S.W.9; 58, Avrill Street, W.6; 28, Faroe Road, W.14 (July 14).

London. 122, Restons Crescent, S.E.9; 14, Troughton Road, S.E.17; 309, Albany Road, S.E.5. (July 16).

Middlesex. 15, Milliaras Terrace, Cowley, Uxbridge (July 14); 10, Croyland Road, Lower Edmonton, N.9 (July 12).

Middlesex. 53, Barry Road, Stonebridge, N.W.10. (July 15).

Norfolk. Butterfly Hall, Attleborough (July 12); The Mill, Westwick, Norwich; Wash Farm, Banham, Norwich (July 13).

Norfolk. "Windmill," Kenninghale Road, East Harling, Norwich (July 18).

Northants. Berrygreen Farm, Badby, Daventry (July 13).

Notts. 64, Surgeys Lane, Arnold (July 12).

Surrey. 25, Queen Elizabeth Way, Kingfield, Woking (July 12).

Surrey. 147, Ockford Ridge, Godalming (July 18).

Sussex. 1, Minstead Cottages, Midhurst, Sussex; Holwych Farm, Fernhurst, Haslemere (July 12).

Sussex. 364, Church Path, Cocking, Midhurst (July 17); Church Farm, Sompting, Worthing (July 18).

Yorks. 29, Kilner Bank, Moldgreen, Huddersfield (July 16).

Swine Fever

Caernarvon. Cwm Bach, Llandudno Junction (July 16).

Cheshire. Aldersey Hall Gardens, Aldersey (July 16).

Denbigh. Taly bryn, Llannefydd; (July 18).

Essex. Yew Tree Farm, Tendring, Clacton-on-Sea (July 18).

Flint. Croftsbank, Whitchurch Salop (July 13).

Glamorgan. Old Carpartha Crossing, Merthyl Tydvil (July 18).

Lancs. Higham House Piggeries, Bispam Road, Carleton, Blackpool (July 12).

Leics. Stemboro Mill, Leire, Rugby, Warwicks (July 19).

Lincs. 41, Uffington Avenue, Swanpool (July 14).

Montgomery. Buttington New Hall, Buttington, Welshpool (July 19).

Norfolk. Manor Farm, Weasenham, St. Peter, King's Lynn (July 13).

Oxford. 6, Foundry Street, Banbury; Grimsbury Allotments, Banbury (July 13).

Salop. Hinstock House, Hinstock, Market Drayton (July 18).

Staffs. Henhurst Farm, Forest Road, Burton-on-Trent (July 13).

Suffolk. Green Farm, Redlingfield, Eye (July 13).

Warwicks. Dickens Heath Farm, Shirley, Birmingham; Cryfield Grange Farm, Kenilworth (July 13); Sandpits Farm, Pillerton Priors (July 15); South Leamington Allotments, Leamington Spa; Eastfield Farm, Crick Road, Hillmorton, Rugby (July 16); Rouncil Towers Farm, Warwick Road, Kenilworth (July 18).

Warwick. Glebe Farm, Tanworth in Arden, Birmingham; Priest Park Farm, Warwick Road, Chadwick End, Birmingham (July 19).

Worcs. Hatchetts Farm, Lower Bentley, Bromsgrove; Eden, Ombersley, Droitwich (July 18).

Worcs. Upper Woodsfield Farm, Newland, Malvern (July 18).

Yorks. Greaseborough Road Stock Allotments, Rotherham (July 15).